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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/586,409

07/19/2006

Masanori Watanabe

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EXAMINER

LEONARD, MICHAEL L

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/586,409 | Applicant(s) WATANABE ET AL. | |
| | Examiner MICHAEL LEONARD | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/03/2008; 09/11/2006; 07/19/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The addition of the word "type" to define both components A and B in claim 1 extends the scope of the expression so as to render it indefinite (Ex parte Copenhaver, 109 USPQ 118 (Bd. App. 1955)).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent Pub. No 2002/0123595 to Tanaka et al.

As to claims 1-2, 6, 12, and 20, Tanaka discloses in a preferred embodiment a liquid polyethercarbonate diol formed from the reaction between carbonate esters, such as dialkyl carbonates, diaryl carbonates, alkylene carbonates and alkylaryl carbonates (0041) and a polyetherdiol having (a): $(CH_2)_6-O-$ (hexanediol) structural units and at least one member of structure units (b): $(CH_2)_2-O-$ or (c): $CH_2CH(CH_3)-O-$ (0032). Tanaka further discloses that in the preparation of the polyether diol a portion, up to 50 molar%, of 1,6-hexanediol is replaced by one or more other diol compounds such as

butanediol and pentanediol, which falls within the claim language of 3 to 5 carbon atoms for the RO group (a) of instant claim 1 (0039). Tanaka further discloses the units b are present in an average number of moles of 0 to 5 per mole of units (a), the units (c) being present in an average number of moles of 0 to 5 per mol of units (a) and wherein the total average number of moles of the units (b) and (c) being more than 1 but not more than 5 per mol of units (a) (0034).

As to claim 3, Tanaka discloses the polyether diol is produced by addition-reacting hexanediol (0038), pentanediol or butanediol (0039) with ethylene oxide or propylene oxide (0038).

As to claims 4, 10, and 18 Tanaka discloses that the polyether diol has a number average molecular weight of 150 to 450, which falls within the claimed range of 100 to 500 (0026).

As to claims 5, 11, and 19, Tanaka discloses that the liquid polyethercarbonatediol has a number average molecular weight of 500 to 5,000 (0027).

As to claims 7 and 13-17, Tanaka discloses thermoplastic polyurethanes formed from the polyethercarbonatediol, a diisocyanate, and a chain extender.

As to claim 8, Tanaka discloses aliphatic, cycloaliphatic and aromatic polyisocyanates usable for the production of the thermoplastic polyurethanes (0049-0051).

As to claim 9, Tanaka discloses suitable chain extenders usable in the production of the thermoplastic polyurethanes (0053-0054).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796